

the visceral anatomy of *Elaphodus* with the facts brought forward in Prof. Flower's important memoir on *Moschus* tends to confirm this view.

The internal anatomy of *Hydropotes* is not known; but the absence of any frontal tuft, the presence of an inflated auditory bulla, together with the non-ankylosis of the cuneiform bones with the naviculo-cuboid of the tarsus, are against its Cervuline affinities.

With *Cervulus* there is every reason to believe that *Elaphodus* is most intimately related. The size of the animal, the conformation of the skull, the fusion of the cuneiform bones with the naviculo-cuboid, the non-development of the metatarsal tufts, and the presence of the frontal crest are all evidences in that direction, as is the similarity of the shape of the glans penis in the two genera. It appears to me that *Cervulus*, together with *Elaphodus*, form a subfamily of the Cervidæ, which might be termed the Cervulinæ and be defined as follows:—

CERVULINÆ. Small Cervidæ in which the proportionally small antlers are situated on elongated pedestals, up the front of which the lengthy hair of the crest which is developed in the frontal region extends. Females hornless. Suborbital glands large in both sexes. No metatarsal tufts. Canine tusks large in the males, minute in the females. The second and third cuneiform bones of the tarsus ankylosed with the naviculo-cuboid. The lateral metatarsals wanting, and the lateral metacarpals present only as slender bones opposite the upper ends of the third and fourth metacarpals, or wanting altogether.

Two genera are contained in this subfamily.

Cervulus. Cervulinæ in which the pedestals of the antlers are divergent, and send downwards from their roots strong supra-orbital ridges, the antlers themselves diverging into a brow-antler and a simple beam. Cutaneous glands developed on the inner side of each supraorbital ridge.

Elaphodus. Cervulinæ in which the pedestals of the antlers are convergent and do not send downwards supraorbital ridges. Antlers minute and simple, scarcely projecting beyond the much-developed frontal hair-tuft. Frontal glands absent.

4. Descriptions of new Species of Lepidoptera from New Guinea, with notice of a new Genus. By ARTHUR G. BUTLER, F.L.S., F.Z.S., &c.

[Received November 4, 1876.]

(Plate LXXVII.)

The following novelties formed part of a collection recently made in Yule Island, New Guinea, by Dr. James.

RHOPALOCERA.

NYMPHALIDÆ.

EUPLEA GUERINII, Felder.

I merely record this butterfly as being common in the collection, and only previously known to occur at Aru; until now I had not seen the species.

EUPLEA DOLOSA, n. sp. (Plate LXXVII. fig. 1.)

Allied to the preceding, smaller, no white spots.

Wings above dark pitchy brown, paler on the external area and costal area of secondaries; primaries with six to seven lilac subapical spots in a curved series, the third in the male (which is fourth in the female) largest and sagittate; male with an elongate interno-median sericeous streak; female with the subapical spots larger and paler than in the male. Wings below bronzy olive-brown; central area of primaries blackish, internal area greyish, with a sericeous streak in the male and a white streak in the female; a minute bluish dot in the cell and three beyond it (sometimes wanting); secondaries with a dot in the cell, and sometimes one beyond it pale bluish; base of wings and pectus black, white-spotted. Expanse of wings, ♂ 3 inches 1 line, ♀ 2 inches 9 lines.

CALLIPLÆA JAMESI, n. sp. (Plate LXXVII. fig. 2.)

Allied to *C. punila*, but the male darker than *C. trimenii* or *C. seriata*.

♂. Wings above deep shining red-brown, the external half of primaries and the apical border of secondaries almost black, with faint purplish reflections; primaries with two subapical contiguous white spots, and below them a decreasing submarginal series of four white spots, all bordered with lavender; secondaries with costal area shining silver-grey, the cell and the area immediately above it occupied by a large creamy patch; a whitish subapical dot. Primaries below slightly paler; a large creamy internal patch reaching the median nervure; four pure white subapical spots in an oblique series, the two upper ones contiguous and largest; a submarginal series of minute white points; secondaries red-brown, apical area slightly darker; two subapical and four to five submarginal white points; base and pectus black, white-spotted. Expanse of wings 2 inches 8 lines.

♀. Paler and more uniformly coloured than the male, white spots much larger, bordered with lilac, subapical spot of primaries trifid, five submarginal spots; three subapical white dots in secondaries; wings below paler, all the spots of the upper surface, and a complete submarginal series of spots white: expanse of wings 2 inches 8 lines.

A well-marked species.

CALLIPLÆA INFANTILIS, n. sp. (Plate LXXVII. fig. 3.)

♂. Allied to the preceding species, considerably smaller, darker, with fewer spots.

Primaries above deep coppery brown, the costal and apical half of primaries and the submedian area of secondaries almost black, with very feeble bluish reflection; primaries with a large trifid subapical white spot, washed with lilac; two submarginal white spots immediately below it: secondaries with the costal area shining brownish grey; the upper half of the cell and the area immediately above it sordid whitish. Wings below more uniform in colour than above; primaries with the interno-median area whitish; five subapical spots in an oblique series, the third largest: secondaries with two subapical bluish dots, the lower one barely visible; base of wings and pectus black, white-spotted. Expanse of wings 2 inches 2 lines.

The smallest species hitherto described.

TENARIS JAMESI, n. sp. (Plate LXXVII. fig. 4.)

Wings semihyaline, snow-white, with a diffused basal ochraceous nebula; primaries with the costal area and apex black-brown, external angle irrorated with sooty brown: secondaries with the apex and apical border sooty brown; a large subapical ocellus visible from transparency of the wing; a large ocellus on the first median interspace black, with white-dotted lilac pupil and diffused yellowish iris with greyish edge (round which is seen a pale ochraceous zone, owing to the transparency of the wing): head and collar black; antennæ black, palpi orange with black tip, thorax grey, the prothorax brownish; abdomen ochreous. Primaries below nearly as above, but without the sooty external angle; secondaries without the sooty apex and border, with two large ocelli, one subapical the other as above, black irrorated with blue scales, with large white pupils and broad grey-bordered ochreous irides. Pectus and legs black. Expanse of wings 4 inches 3 lines.

Allied to *T. mylæcha*.

ATELLA CERVINA, n. sp. (Plate LXXVII. fig. 5.)

Above reddish tawny, paler in the female, with blackish markings as in *A. arruana*, but more pronounced; wings below also much as in *A. arruana*, but the basal area not washed with lilac in either sex, the black spots more pronounced, the whitish discal and submarginal spots more silvery, and the submarginal zigzag ochreous band much more irregular: expanse of wings, ♂ and ♀, 2 inches 5 lines.

Though nearly allied to *T. arruana*, this species is much larger, darker, more heavily bordered and spotted with black-brown, and the basal area below differs markedly in the absence of the strong lilac wash which is persistent in the Aru species.

HETEROCERA.

CELERENA, Walker*.

Allied to *Celerena* (of Lepidoptera Heterocera); wings larger, more

* Mr. Walker altered the type of his genus *Celerena*, originally described in the 'Transactions of the Entomological Society,' from *C. divisa* to *C. sobria*; as the two species are not congeneric, I would propose for the latter (which is the type of *Celerena* in the Lepidoptera Heterocera) the name of *Craspedosis*, n. gen.

or less yellow in colour; the arrangement of nervures much the same; palpi thicker, antennæ much more slender. Type *C. divisa*.

CELERENA VULGARIS, n. sp.

Allied to *C. perithea*, of Cramer, from Amboina, but with the transverse golden-yellow band of primaries twice as wide, and the black-brown border of secondaries only half as wide: expanse of wings 2 inches 4 lines.

This is evidently a very common species.

The above-named genus will include the following species:—*C. lerne*, Boisd.; *C. divisa*, Walker; *C. andamana*, Felder; *C. commutata*, Walker; *C. mutata*, Walker; *C. perithea*, Cramer; *C. proxima*, Spreta, and *connexa* of Walker; and *C. eucnemis* of Felder.

5. Contributions to a General History of the *Spongiadæ*.

By J. S. BOWERBANK, LL.D., F.R.S., &c.—Part VIII.

[Received November 8, 1876.]

(Plates LXXVIII.—LXXXI.)

The Sponges described in the present contribution to a general history of the Spongiadæ are rare and very remarkable species. Three of them are, to the best of my knowledge, unique specimens; and the fourth, *Chalina verticillata*, elucidates in a singularly striking manner the structure and history of a diluvial fossil sponge enveloped in flint, which has for a long period been a mystery to palæontologists.

DESMACIDON PLUMOSA, sp. nov. (Plate LXXVIII.)

Sponge elongately fan-shaped, pedicellate; pedicle long and stout, smooth, fan-shaped, expansion prominently hispid on both planes. Oscula simple, dispersed, minute, and numerous. Pores inconspicuous. Dermal membrane aspiculous. Skeleton reticulated, rete irregular; primary fibres stout and solid, radiating irregularly from the discal end of the pedicle in the same plane; secondary fibres radiating from the primary ones at nearly right angles to the planes of the sponge, short, slender, and delicately plumous. Spicula subfusiform-acerate.

Colour, in the dried state, fawn-yellow.

Hab. Sharks' Bay, Western Australia.

Examined in the dried state.

I obtained this singular and interesting sponge among many others from a dealer in specimens of natural history, who stated that it was from Sharks' Bay, Western Australia. It is 15 inches in height, and about 5 inches broad at near the middle of the fan-shaped expansion. No portion of the basal attachment remains; and the pedicle in its present state slightly exceeds 4 inches in length. It is slightly